

## **Determination of Public Land (Rangeland) Health for 65005 BOJAX SOUTH**

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. While habitat parameters may meet the Biotic standard, the habitat requirements for Special Status Species (lesser prairie chicken and sanddune lizard) habitat are a concern. Factors such as the mesquite encroachment in some areas and the low composition of the tall grass species required for nesting success must continue to be addressed to improve the existing habitat and prevent loss of habitat from fragmentation.

Based on the assessments, it is my determination that public land within Bojax South allotment #65005, meet the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard, but not at the desired level. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/ T. R. Kreager

Assistant Field Manager

09/28/2005

Date

## Standards of Public Land Health Evaluation of 65005 BOJAX SOUTH Allotment [ 03/30/2005 ]

The Roswell Field Office conducted rangeland health assessments at four (4) study sites within the Bojax South allotment 65005. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65005-CEDAR #3-D027 (*)	X	*		X	*		N/A		
65005-EAST #1-D025 (*)	X			X	*		N/A		
65005- HW155-C005 (*)	X			X			N/A		
65005- MIDDLE #2- D026 (*)	X	*		X	*		N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on Bojax South allotment #65005. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with previous data collected on four study locations within this allotment were utilized to make rangeland health determinations. Quantitative evaluations are performed by the Roswell Field Office, which include some or all of the following: ground and vegetative cover and composition, production, frequency and ecological condition. These collections which were initiated in the late 1970's/early 1980's are scheduled and conducted approximately every 5 years.

Each assessment corresponds to a different study site within this allotment. Cedar and Middle, HW and East pastures are CP-2 Deep Sand, Sandy Loam and Sandy Plains respectively. Cedar Pasture with an acreage of 2,365 or 957 hectares indicators' rated in a range from None to Slight to Moderate to Extreme. Of concern is bareground rating Moderate to Extreme. Pedestals and terracettes, litter movement, soil surface resistance to erosion and loss or degradation, litter amount and physical crusting all rate Moderate. Bareground with a current estimate of 60 percent exceeds the ESD figure of 35 percent.

Pedestaling occurs on the grass clumps with vegetation elevated in flow paths but no terracettes evident. Litter, made up of mostly shinnery leaves and forbs was observed against obstructions and in depressional areas but in less quantities than expected. Soil surface resistance to erosion exhibits rapid soil melting of interspace ped samples. Some A-horizon has been lost from accelerated wind/water erosional processes and soil surface loss or degradation indicates some pebbling and small rock migrating to soil surface. Physical crusting is quite weak and in some places totally void. All other indicators rate None to Slight and Slight to Moderate with deviations remaining within normal ranges of variability.

Middle pasture, a CP-2 Deep Sand site encompasses an area of 1,555 acres/629 hectares. The soil phase is Roswell-Jalmar on high terraces in the eastern part of the survey area. Slopes are 5-10 percent on elevations of 3,900 feet/1182 meters to 4,100 feet/1,242 meters. Bareground is the lone indicator rating Moderate to Extreme. The current estimate is 60 percent exceeding the long-term average and ESD percentage by at least 25 percent. A majority of indicators rate Moderate. Pedestals and/or terracettes rates Moderate as pedestaling is active on grass clumps with elevation on plants in flow paths. Litter movement exhibited litter piling against obstructions and in flow paths. Soil surface resistance to erosion exhibits rapid melting of interspace ped samples and rates Moderate. Additionally soil surface loss or degradation indicates some horizon loss with small rock exposed. Functional/structural groups is slightly modified with an absence of perennial grass cover; annual production is currently estimated at 400-500 lbs/acre or kg/ha; invasive plants indicates mesquite (*Prosopis glandulosa*) as scattered. Physical crust is evident but weak and is a minor interspace component. These indicators all rate Moderate exhibiting moderate deviations from normal range of variability. All other indicators rate None to Slight and Slight to Moderate.

East #1 Pasture with an acreage of 2,302 or 932 hectares on a CP-2 Sandy Plains ecological site has a soil complex of Stromal-Faskin-Malstrom gently undulating with 0-2 percent slopes on high terraces in the eastern part of the survey area. Elevation is 4,000 feet/1,212 meters on fine sand. The majority of indicators rated None to Slight to Slight to Moderate. Indicators with soil and hydrologic attributes rating Moderate are pedestals and/or terracettes, bareground, litter movement and physical crusts. Slight active pedestals were observed on grass clumps and several shrubs especially in flow paths, with an absence of terracettes. Bareground was estimated at 60 percent exceeding the ecological site description of 30 percent and long-term average of 52 percent respectively. Litter was observed in scattered concentrations against obstructions and in depressional areas. This litter is made up mainly of threeawn (*Aristida* spp.) and other less obvious cool season forbs which have cured. A weak physical crust is holding the soil in place but is very broken in its continuity. Indicators with biotic attributes rating Moderate are; functional/structural groups, sand bluestem (*Andropogon hallii*) is moderately reduced and the threeawn component is replacing it in many areas, annual production is currently estimated at 450 lbs/ac or kg/ha which is only half of potential and slightly less than long-term average, invasive plants rates Moderate as snakeweed (*Gutierrezia sarothrae*), mesquite and yucca (*Yucca* spp.) are scattered. Ranch roads and watering troughs can be found within this pasture and are fully operational although no

livestock utilize it currently. Pronghorn (*Antilocapra americana*) and lagomorphs were observed making use of forb growth in swales leading into this site.

Pasture HW155 is a CP-2 Sandy Loam ecological site on a Ratliff-Redona soil association. Slopes are 0-2 percent on high terraces in the eastern part of the survey area. Elevation ranges from 3,800 feet/1,151 meters to 4,300 feet/1,303 meters. Indicators of concern are bareground, litter amount and movement, functional/structural groups, annual production and annual production. Bareground estimated at 60 percent exceeds the ESD of 35 percent. Therefore this indicator rates Moderate to Extreme. Litter movement rates Moderate with mesquite leaves and forbs piling up against obstructions and in dunal areas but remains at bottom end of ranges expected. Functional/structural groups are reduced and rate Moderate. Little bluestem (*Schizachyrium scoparium*), sideoats grama (*Bouteloua curtipendula*) and hairy grama (*Bouteloua hirsuta*) are significantly reduced. Annual production is approximately 40 percent of potential and is only 1/2 of long-term average with a current estimate of 400 lbs/ac or kg/ha. The current amount of mesquite may be reaching a level as to inhibit grass production. This shrub is common and there is cattle trailing throughout. Tobosa (*Pleuraphis mutica*), burrograss (*Scleropogon brevifolius*) and threeawn are the dominant grass species on site perhaps shifting composition. Dropseeds like alkali sacaton (*Sporobolus airoides*) and sand dropseed (*Sporobolus cryptandrus*) are missing, but blue grama (*Bouteloua gracilis*) and bush muhly (*Muhlenbergia porteri*) are occurring in some areas. A strong physical crust is currently holding soil in place especially in interspaces. All other indicators are within normal ranges of variability.

#### Hydrology -

Cedar #3-D027 - The pedestals and/or terracette indicator rated moderate. Recent dry conditions in combination with wind/water erosion has possibly reduced plant cover and infiltration which may have increased pedestaling on grasses and shrubs. The bareground indicator rated moderate to extreme. The amount of bareground has possibly increased due to recent dry conditions with wind/water erosion processes. The litter movement indicator rated moderate. A decrease in litter movement suggests that dry weather has negatively affected growing conditions reducing it's amount and mobility. Soil surface resistance to erosion rated moderate. Organic matter is lacking on this site, but is expected for an area with small amounts of litter. The soil surface loss or degradation rated moderate. The recent dry conditions decreases physical crust strength. In addition, absence of soil crusts, wind velocity, surface dryness and decreased amounts of plant cover has possibly increased surface loss to degradation. The litter amount rated moderate. The decrease in litter suggests that dry weather has negatively affected growing conditions reducing amounts produced. Additionally, decrease in litter can increase bare soil. The physical/biological crust indicator rated moderate. There was a weak physical crust. All other indicators rated none to slight and slight to moderate, indicating a healthy ecological condition.

East #1-D025 - The pedestals and/or terracette indicator rated moderate. The recent dry conditions in combination with wind/water erosion has possibly reduced the amount of

plant cover and decreased infiltration into the soil increasing the degree of pedestaling on plants and rocks. The bareground indicator rated moderate. The amount of bareground has possibly increased due to recent dry conditions and wind/water erosion processes. The litter movement indicator rated moderate. The decrease in litter movement suggests that the dry weather has had a negative affect on the growing conditions reducing the amount that is produced and it's mobility. The physical/biological crust indicator rated moderate. There were weak physical soil crusts observed. All other indicators rated none to slight and slight to moderate indicating a healthy ecological condition.

HW155-C005 - The bareground indicator rated moderate to extreme. The amount of bareground has possibly increased due to recent dry conditions along with wind/water erosion processes. Litter amount rated moderate. The decrease in litter suggests that dry weather negatively affect growing conditions reducing amounts produced. Additionally, a decrease in litter amount can have the effect of increasing bare soil. All other indicators rated none to slight and slight to moderate indicating a healthy ecological condition.

Middle #2-D026 - The pedestals and/or terracette indicator rated moderate. The recent dry conditions in combination with wind/water erosion has possibly reduced the amount of plant cover and decreased soil infiltration increasing pedestaling on grasses. The bareground indicator rated moderate to extreme. The amount of bareground has possibly increased due to recent dry conditions along with wind/water erosion processes. The litter movement indicator rated moderate. The decrease in litter movement suggests that dry weather has negatively affected growing conditions reducing the amount produced and it's movement. Soil surface resistance to erosion rated moderate. The soil stability test indicates a rapid melting of interspace and under plant canopy ped samples. Organic matter is lacking on this site. The soil surface loss or degradation rated moderate. The recent dry conditions reduces strength of physical crusts. Additionally, absence of crusts, wind velocity, surface dryness and the decreased amount of plant cover has possibly increased soil loss or degradation. The physical/biological crust indicator rated moderate. There was a weak physical soil crust found. All other indicators rated none to slight or slight to moderate indicating a healthy ecological condition.

## Wildlife

Evaluation of the integrity of biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups and plant mortality & decadence.

In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. A unique assemblage of terrestrial species and avifauna can be expected to use the Mescalero Sands ecosystem. Of significance are the lesser prairie chicken and sand dune lizard known only to occur within this ecosystem. The vegetation community of interest is the shinnery oak-tall grass type only found in this portion of the Field Office area.

Key habitat components include sand bluestem, shinnery oak, sand dune lizard habitat features (dune blowouts), and lesser prairie chicken habitat features (booming grounds & nesting areas). The amount, condition and juxtaposition of these habitat features are used as habitat indicators for this assessment.

Key attributes/indicators related to LPC habitat are Functional/Structural Groups, Annual Production, and Invasive Plants. Key attribute/indicators related to SDL habitat are Bare Ground, Wind-Scoured Blowouts, Deposition Areas and Annual Production. SDL are generally associated with blowouts that are unstabilized, i.e., microhabitats affected by the physical attributes of dunes and vegetation.

Other important wildlife species and their habitats, such as desert mule deer, pronghorn, a variety of game and non-game species, are considered in the assessment but not the focus of the evaluation. The assessment begins by determining if the site is within "Core Areas" for lesser prairie chicken, or contains potential/occupied habitat for the sand dune lizard.

This allotment is the most northern extent of LPC habitat in the Field Office area and borders the west edge of the Mescalero Sands ecosystem.

The allotment has the potential to provide habitat for LPC, lek activities have occurred to the east and south of the allotment although none have been documented on the allotment at this time (access is limited).

SDL habitat also may occur as microhabitats across the allotment. The delineated SDL zone includes the eastern portion of the allotment. As conditions deteriorate, such as the Bare Ground standard, habitat may somewhat increase for SDL.

Habitat conditions appear to be in a downward trend due to the decrease in mid and tall grasses, invasion of the site by more shrub species (mesquite, yucca, broom snakeweed) and three-awn grasses. A general shift of habitat type - from a grassland with scattered shrubs to a shrub-dominated grassland has occurred.

All pastures were rated Moderate for Wildlife Habitat and Wildlife Populations because of the declining habitat conditions as evaluated against the rangesite descriptions. A general shift in the wildlife community based on habitat changes. Wildlife species tolerant to shrubs in the grassland community more common than those grassland species less tolerant to shrubs.

East #1 & Middle #2 were rated Moderate to Extreme for Special Status Species & Populations based on habitat requirements for the species of concern and the downward trend in habitat conditions. Cedar #3 rated Moderate for these indicators.

In the professional opinion of the Assessment Team, public land within Bojax South allotment #65005, meets Upland and Biotic standards. See site notes and recommendations for further information regarding these ecological sites and their assessments.

The (\*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Bare Ground
- Invasive Plants
- Special Status Species Habitat
- Special Status Species Populations

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

**Recommendations:** Recommendation is possible brush control in the future for HW pasture to reduce mesquite. Those pastures with reduced forage should continue on the current rotation to help them recover and improve in condition and health. The sporadic rainfall must be taken into account when any one single pasture is stocked.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65005-CEDAR #3-D027			
Legal Land Desc	SESE 36 0050S 0270E Meridian 23	Acreage	2365
Ecosite	070BY063NM DEEP SAND CP-2	Photo Taken	Y
Watershed	13060003180 HERNANDEZ		
Observers	NAVARRO/ARTHUN	Observation Date	04/08/2005
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	RPD	Soil Taxon Name	ROSWELL
Texture Class	NM644 FS	Soil Phase	ROSWELL- JALMAR
Texture Modifier	NM644 FINE SANDS,HILLY		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	14.65	NOAA Growing Season Precipitation	11.4
NOAA Avg Annual Precipitation	13.56	NOAA Avg Growing Season Precipitation	11.44
Disturbances and Animal Use:			

## Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:	Wind influence on patterns and water as well.					
S H	Pedestals and/or Terracettes			X		
Comments:	Active pedestaling on grass clumps and some shrubs.					



S H	Bare Ground		X			
Comments:	ESD=35%, data=52.67%. currently=50-60%.					
S H	Gullies				X	
Comments:	Occuring on roads.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:	Existing blowouts are recovering and revegetating.					
H	Litter Movement			X		
Comments:	Against obstructions and in some depressional areas.					
S H B	Soil Surface Resistance to Erosion			X		
Comments:	Rapid soil melt.					
S H B	Soil Surface Loss or Degradation			X		
Comments:	Some horizon loss especially in plant interspaces.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	ESD= ANHA, ANSC2, SPCR, SPFI2, SPCO4					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount			X		
Comments:	ESD=30%, data=21%.					
B	Annual Production				X	
Comments:	ESD=2,000 #/acre, data=515#/acre, currently= 800-900#/acre					
B	Invasive Plants				X	
Comments:	Snakeweed increasing.					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts			X		

Comments:	Very weak physical crust.					
B	Wildlife Habitat			X		
Comments:	An undulating mixed shrub grassland habitat type appearing as a transitional area adjacent to the deep sand rangesite supporting shinnery oak/tallgrass to the east. Shinnery oak is not common on this deep sand rangesite. Habitat conditions exhibiting a downward trend due to the loss of mid and tall grasses and an increase in yucca and snakeweed.					
B	Wildlife Populations			X		
Comments:	<p>No specific wildlife population data at this time. The primary species of concern, other than those identified below, are pronghorn antelope, desert mule deer, upland game species and a variety of non-game wildlife species.</p> <p>A general shift in the wildlife community based on habitat changes. Wildlife species tolerant to shrubs in the grassland community more common than those grassland species less tolerant to shrubs.</p>					
B	Special Status Species Habitat			X		
Comments:	On the margin of the LPC core area. The shinnery oak/tall grass vegetation community supports species unique to the Mescalero Sands ecosystem. Lek sites are available within the pasture although nesting habitat appears to be a factor that can be improved, specifically tall grass species such as sand bluestem.					
B	Special Status Species Populations			X		
Comments:	<p>This habitat is exhibiting a downward trend for LPC due to the decline of tall grasses and an increase in other invasive shrubs species.</p> <p>The site is within delineated SDL range and SDL may occur in unstabilized dune habitat (microhabitats).</p>					

### Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	1	4	3	2
H	Hydrologic	0	1	5	3	2
B	Biotic	0	0	7	3	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the <i>Does not Meet</i> column, Moderate becomes <i>May Need More Info</i> , and Slight to Moderate and None to Slight merge to form the <i>Meets</i> columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.				
Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Indicators rated as Moderate are in line with what is expected for a Deep Sand site. Soil attributes show some degradation. Organic matter is lacking in the interspaces. This site however is recovering.	1	4	5
Hydrologic	Indicators rated as Moderate are in line with what is expected for a Deep Sand site.	1	5	5
Biotic	Some biotic indicators show moderate departure but remain sufficient. Continued evaluation to ensure the biotics remain at an acceptable level is recommended.	0	7	6
	Special status species (LPC) habitat is a concern.			
Site Notes: No livestock observed at time of assessment. Pronghorn observed in this pasture which suggests forb production is up from previous years. Annual grass component is evident with seedlings from perennials.				

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65005-EAST #1-D025						
Legal Land Desc	SWNW 26 0050S 0280E Meridian 23		Acreage	2302		
Ecosite	070BY055NM SANDY PLAINS CP-2		Photo Taken	Y		
Watershed	13060003180 HERNANDEZ					
Observers	NAVARRO/ARTHUN/MCGEE		Observation Date	04/13/2005		
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	SOA		Soil Taxon Name	STROMAL		
Texture Class	NM644 FS		Soil Phase	STROMAL-FASKIN-MALSTROM		
Texture Modifier	NM644 FINE SAND					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	14.45		NOAA Growing Season Precipitation	11.4		
NOAA Avg Annual Precipitation	13.37		NOAA Avg Growing Season Precipitation	11.44		
Disturbances and Animal Use:						
<b>Part 2. Attributes and Indicators</b>						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						

S H	Pedestals and/or Terracettes			X		
Comments:						
S H	Bare Ground			X		
Comments:	Now estimated at 50%.					
S H	Gullies				X	
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement			X		
Comments:	Litter in scattered concentrations.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Only minor effects.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	ESD=ANHA, ANSC2,ERSE. Reduced ANHA, with increased threeawn (Aristida spp.).					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:						
B	Annual Production			X		
Comments:	ESD=2250#/acre;data=643#/acre; Currently at 550-600#/acre.					
B	Invasive Plants				X	
Comments:	Mesquite less than scattered along with yucca.					
B	Reproductive Capability of Perennial Plants					X

Comments:						
S	Physical/Chemical/Biological Crusts			X		
Comments:	Weak physical crust.					
B	Wildlife Habitat			X		
Comments:	An undulating sandy mixed shrub grassland with a downward trend. Many mid and tall grass species are gone and replaced by shrubs and three-awns.					
B	Wildlife Populations			X		
Comments:	No specific wildlife population data at this time. The primary species of concern, other than those identified below, are pronghorn antelope, desert mule deer, upland game species and a variety of non-game wildlife species.					
B	Special Status Species Habitat		X			
Comments:	<p>On the margin of the LPC core area. The shinnery oak/tall grass vegetation community supports species unique to the Mescalero Sands ecosystem. Lek sites are available within the pasture although nesting habitat appears to be a factor that can be improved, specifically tall grass species such as sand bluestem.</p> <p>This habitat is exhibiting a downward trend for LPC due to the decline of tall grasses and an increase in other invasive shrubs species.</p> <p>The site is within delineated SDL range and SDL may occur in unstabilized dune habitat (microhabitats).</p>					
B	Special Status Species Populations		X			
Comments:	<p>LPC are known to occur in the area to the east. Several lek sites have been documented over the years adjacent to this pasture. LPC should also occur in this area but may not be using the area due to declining habitat conditions.</p> <p>No specific SDL populations have been documented to date. Populations may occur in unstabilized dune habitat (microhabitats).</p>					
<b>Part 3. Summary</b>						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight

S	Soil	0	0	3	4	3
H	Hydrologic	0	0	3	6	2
B	Biotic	0	2	4	4	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Indicators rated as Moderate are in line with what is expected for a Sandy Plains site.	0	3	7
Hydrologic		0	3	8
Biotic	Some biotic indicators show moderate departure but remain sufficient. Continued evaluation to ensure the biotics remain at an acceptable level is recommended.  Special status species (LPC) habitat is a concern.	2	4	7

Site Notes: Pronghorn observed onsite. Favorable precipitation has increased forb production. No livestock observed at the present time. This site was difficult to locate. New directions and t-post re-set.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65005-HW155-C005						
Legal Land Desc	SWSW 29 0050S 0270E Meridian 23		Acreage			
Ecosite	070BY054NM SANDY LOAM CP-2		Photo Taken		Y	
Watershed	13060003220 FILLMORE					
Observers	NAVARRO/ARTHUN		Observation Date		03/30/2005	
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	RBA		Soil Taxon Name		RATLIFF	
Texture Class	NM644 FSL		Soil Phase		RATLIFF-REDONA	
Texture Modifier	NM644 FINE SANDY LOAM					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	14.45		NOAA Growing Season Precipitation		11.4	
NOAA Avg Annual Precipitation	13.37		NOAA Avg Growing Season Precipitation		11.44	
Disturbances and Animal Use:	Livestock trailing is evident. Mesquite is common throughout. Some gullyng is apparent on the road leading into the site.					
<b>Part 2. Attributes and Indicators</b>						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						



S H	Bare Ground		X			
Comments:	ESD=35%. Present estimation is 60% exceeding the upper end of the range expected.					
S H	Gullies				X	
Comments:	Some gullying occurring on road.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer				X	
Comments:	Some compaction as livestock trailing is evident.					
B	Functional/Structural Groups			X		
Comments:	ESD=Scsc, Bocu,Bogr2,Bohi2, %composition: Arist=9, Boer4=14,Bogr2=35,Gusa=12,Himu2=15,Mupo2=6,Prgl2=7.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount			X		
Comments:	ESD=30%. Now 20% is the most observed.					
B	Annual Production			X		
Comments:	ESD=1200#/acre, data=918 #/acre. Now the estimation is 50% of potential approximately.					
B	Invasive Plants		X			
Comments:	Mesquite cover 15-18%. Appears to be increasing and is common throughout.					
B	Reproductive Capability of Perennial Plants					X

Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	Physical crust is evident.					
B	Wildlife Habitat			X		
Comments:	A tobosa grassland infested with mesquite that is beginning to form low hummocks, downward trend in habitat conditions due to mesquite invasion and lowered vegetation diversity.					
B	Wildlife Populations			X		
Comments:	No specific wildlife population data at this time. Trend is a shift from grassland wildlife species to shrubland species, mostly non-game wildlife. Possibly some upland game birds populations in area.					
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

### Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	1	0	8	1
H	Hydrologic	0	1	1	8	1
B	Biotic	0	1	5	3	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		1	0	9
Hydrologic		1	1	9
Biotic		1	5	7
<p>Site Notes: This site was re-located to section 20 to include public land rather than private, along the north bound road past Rampage Lake but remaining within the allotment. Mesquite was quite common at the newly located site with evidence of livestock use and trailing. tobosa, muhley'sburrograss and bladderpod were observed. Also found in depressional areas are blue and black grama.</p>				

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65005-MIDDLE #2-D026			
Legal Land Desc	SWSE 28 0050S 0280E Meridian 23	Acreage	1555
Ecosite	070BY063NM DEEP SAND CP-2	Photo Taken	Y
Watershed	13060003180 HERNANDEZ		
Observers	NAVARRO/ARTHUN	Observation Date	03/30/2005
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	RPD	Soil Taxon Name	ROSWELL
Texture Class	NM644 FS	Soil Phase	ROSWELL- JALMAR
Texture Modifier	NM644 FINE SANDS,HILLY		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	14.45	NOAA Growing Season Precipitation	11.4
NOAA Avg Annual Precipitation	13.37	NOAA Avg Growing Season Precipitation	11.44
Disturbances and Animal Use:	No livestock seen.		

Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes			X		
Comments:		On grass clumps.				
S H	Bare Ground		X			

Comments:	ESD=35-45%, data=47.5%, currently 60%.					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement			X		
Comments:						
S H B	Soil Surface Resistance to Erosion			X		
Comments:	Rapid soil melt on interspace sample.					
S H B	Soil Surface Loss or Degradation			X		
Comments:	Soil loss as evidence of pedestaled plants.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	data= Quha3=274, Arfi=31, Gusa=27, Prgl=21 (by weight).					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	ESD=35-40%, data=30%, currently=20%.					
B	Annual Production			X		
Comments:	1/2 of potential is the estimate.					
B	Invasive Plants			X		
Comments:	Possible encroachment of scattered mesquite.					
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts			X		
Comments:	Weak physical crust.					

B	Wildlife Habitat			X		
Comments:	This is a shinnery oak/tall grass habitat type that USED to exhibit diverse vegetation with shrubs and mid to tall grasses in a mosaic over the landscape. Habitat condition is in a downward trend due to the disappearance of several plant species that should occur on the site.					
B	Wildlife Populations			X		
Comments:	No specific wildlife population data at this time. The primary species of concern, other than those identified below, are pronghorn antelope, desert mule deer, upland game species and a variety of non-game wildlife species.					
B	Special Status Species Habitat		X			
Comments:	<p>On the margin of the LPC core area. The shinnery oak/tall grass vegetation community supports species unique to the Mescalero Sands ecosystem. Lek sites are available within the pasture although nesting habitat appears to be a factor that can be improved, specifically tall grass species such as sand bluestem.</p> <p>No specific SDL populations have been documented to date. Populations may occur in unstabilized dune habitat (microhabitats).</p>					
B	Special Status Species Populations		X			
Comments:	LPC are known to occur in the area to the east. Several lek sites have been documented over the years adjacent to this pasture. LPC should also occur in this area but may not be using the area due to declining habitat conditions.					

### Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	1	4	2	3
H	Hydrologic	0	1	4	3	3
B	Biotic	0	2	7	2	2

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns.

Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Indicators rated as Moderate are in line with what is expected for a Deep Sand site. Soil attributes show some degradation. Organic matter is lacking in the interspaces. This site however is recovering.	1	4	5
Hydrologic	Indicators rated as Moderate are in line with what is expected for a Deep Sand site.	1	4	6
Biotic	Some biotic indicators show moderate departure but remain sufficient. Continued evaluation to ensure the biotics remain at an acceptable level is recommended.  Special status species (LPC) habitat is a concern.	2	7	4

Site Notes: This site historically has reduced ground cover and higher bareground percentages as an average. The bluestem component is reduced and replaced by threeawn and panicum grasses. Mesquite is scattered but encroaching along with yucca and some sand sage. A few wind-scoured blowouts are evident especially on the windward side of the dunes. Shinnery oak is also observed but in lesser amounts. No livestock observed at time of assessment. Forbs are also down although there appears to be dried up sunflowers from the past year.

# Functional / Structural Groups

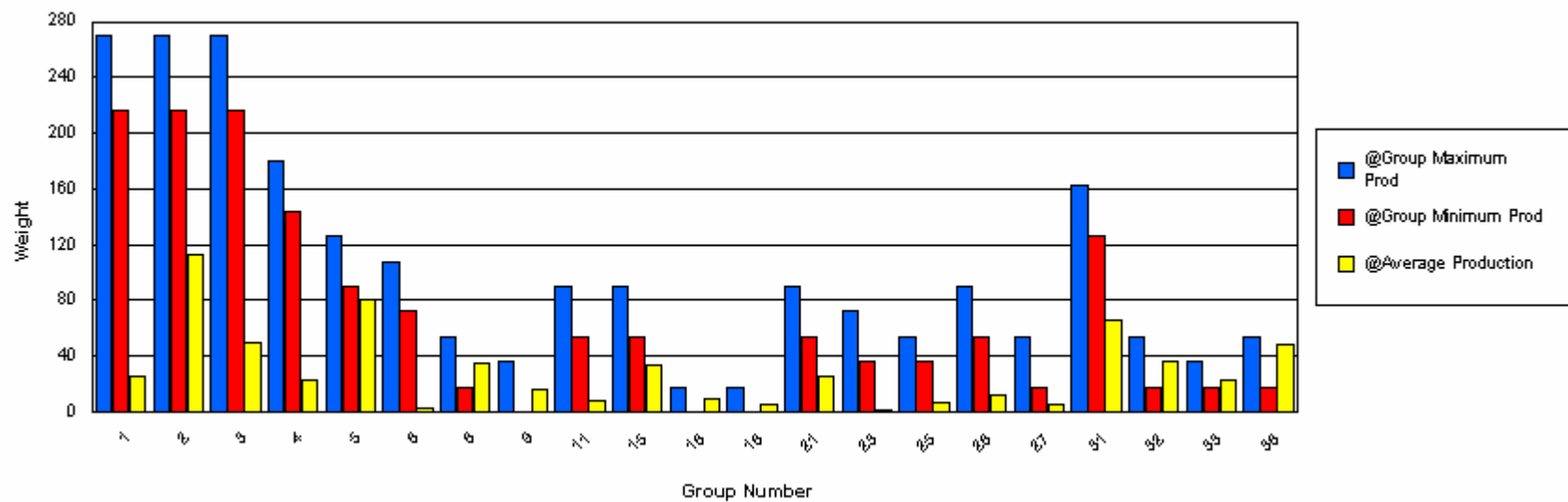
## Report Parameters

SITE NAME LIKE 65005-CEDAR #3-D027  
 ON/AFTER 10/01/1980  
 ON/BEFORE 09/30/2005  
 MIN LBS TO GRAPH 1  
 SELECTED ECOSITE 070BY063NM

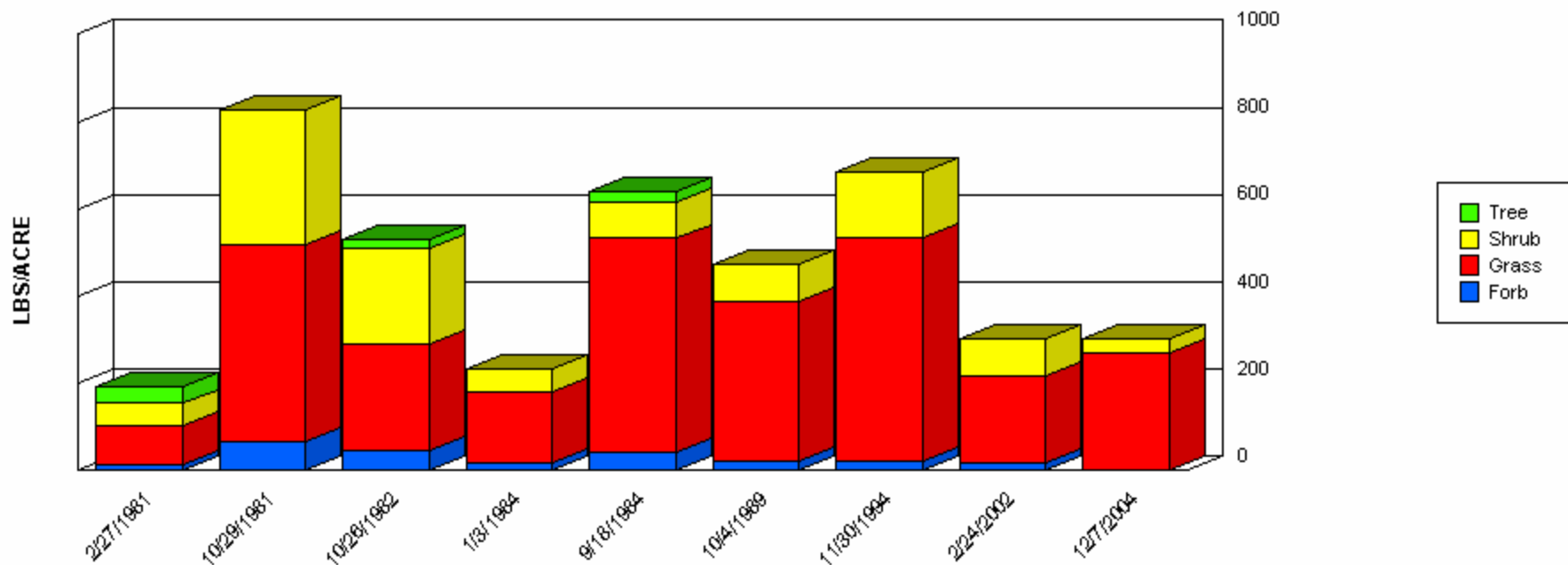
Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	ANHA	216	270	4.00	80.00	25.42	24.90
2	Grass	ANSC2	216	270	19.00	279.00	113.49	83.93
3	Grass	SPCR	216	270	0.00	33.00	18.39	12.54
3	Grass	SPFL2	216	270	2.00	68.23	30.74	27.74
4	Grass	BOHI2	144	180	0.63	41.00	23.08	13.46
5	Grass	ARIST	90	126	0.00	99.00	25.37	31.55
5	Grass	ARPU9	90	126	26.37	84.93	55.65	29.28
6	Grass	PAST6	72	108	0.64	7.00	2.41	2.65
8	Grass	LECO	18	54	5.00	120.70	35.20	37.02
9	Grass	AAGG	0	36	0.00	11.00	5.50	5.50
9	Grass	CEPA7	0	36	0.00	39.68	10.40	14.52
9	Grass	MUSQ	0	36	0.00	1.00	0.56	0.42
11	Grass	BOCU	54	90	1.94	16.20	7.50	5.58
15	Grass	EROX	54	90	0.00	65.00	33.33	28.28
16	Grass	ERSE2	0	18	0.00	20.00	9.16	8.78
18	Grass	CAREX	0	18	0.00	14.20	5.43	5.48
21	Forb	ERAN3	54	90	0.00	59.40	19.80	28.00
21	Forb	ERIOG	54	90	0.00	19.49	5.66	7.38
23	Forb	HEAN3	36	72	0.00	2.00	1.00	1.00
25	Forb	AMPS	36	54	0.00	14.00	7.38	5.30
26	Forb	AAFF	54	90	1.00	29.70	12.74	10.81
27	Forb	HYFL	18	54	0.00	4.00	2.00	2.00
27	Forb	MELE2	18	54	0.00	1.72	1.00	0.63
27	Forb	PPFF	18	54	0.00	10.00	2.89	3.73
31	Shrub	ARFI2	126	162	13.00	194.40	65.88	62.04
32	Shrub	GUSA2	18	54	5.36	117.12	36.41	33.79



Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
33	Shrub	YUGL	18	36	0.00	61.00	23.00	27.07
38	Shrub	YUCCA	18	54	0.00	60.00	22.00	26.98
38	Tree	YUEL	18	54	19.44	37.00	25.81	7.94



## Production Lbs/Acre Trends

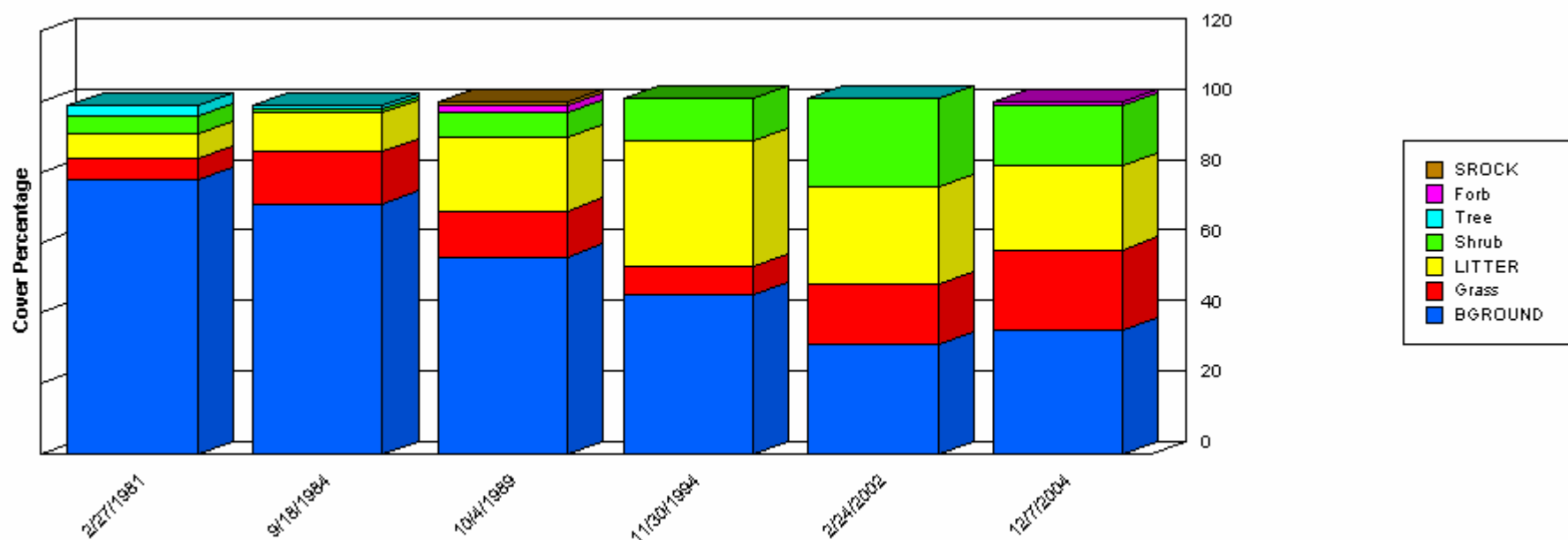


	2/27/1981	10/29/1981	10/26/1982	1/3/1984	9/18/1984	10/4/1989	11/30/1994	2/24/2002	12/7/2004
Forb	14.00	67.60	44.52	17.10	43.00	21.00	21.00	19.49	0.00
Grass	91.00	449.06	244.52	164.00	489.00	365.00	514.00	195.74	269.14
Shrub	49.00	311.52	221.76	52.96	85.00	86.00	151.00	88.85	31.52
Tree	37.00	0.00	19.44	0.00	21.00	0.00	0.00	0.00	0.00
Total	191.00	828.18	530.24	234.06	638.00	472.00	686.00	304.09	300.66

### Report Parameters

SITE NAME LIKE 65005-CEDAR #3-D027  
 ON/AFTER 10/01/1980  
 ON/BEFORE 09/30/2005

## Ground Cover Trends



	2/27/1981	9/18/1984	10/4/1989	11/30/1994	2/24/2002	12/7/2004
BGROUND	78.00	71.00	56.00	45.00	31.00	35.00
Forb	0.00	0.00	2.00	0.00	0.00	1.00
Grass	6.00	15.00	13.00	8.00	17.00	23.00
LITTER	7.00	11.00	21.00	36.00	28.00	24.00
Shrub	5.00	1.00	7.00	12.00	25.00	17.00
SROCK	0.00	0.00	1.00	0.00	0.00	0.00
Tree	3.00	1.00	0.00	0.00	0.00	0.00

	2/27/1981	9/18/1984	10/4/1989	11/30/1994	2/24/2002	12/7/2004
Total	99.00	99.00	100.00	101.00	101.00	100.00

## Report Parameters

SITE NAME LIKE 65005-CEDAR #3-D027  
 ON/AFTER 10/01/1980  
 ON/BEFORE 09/30/2005

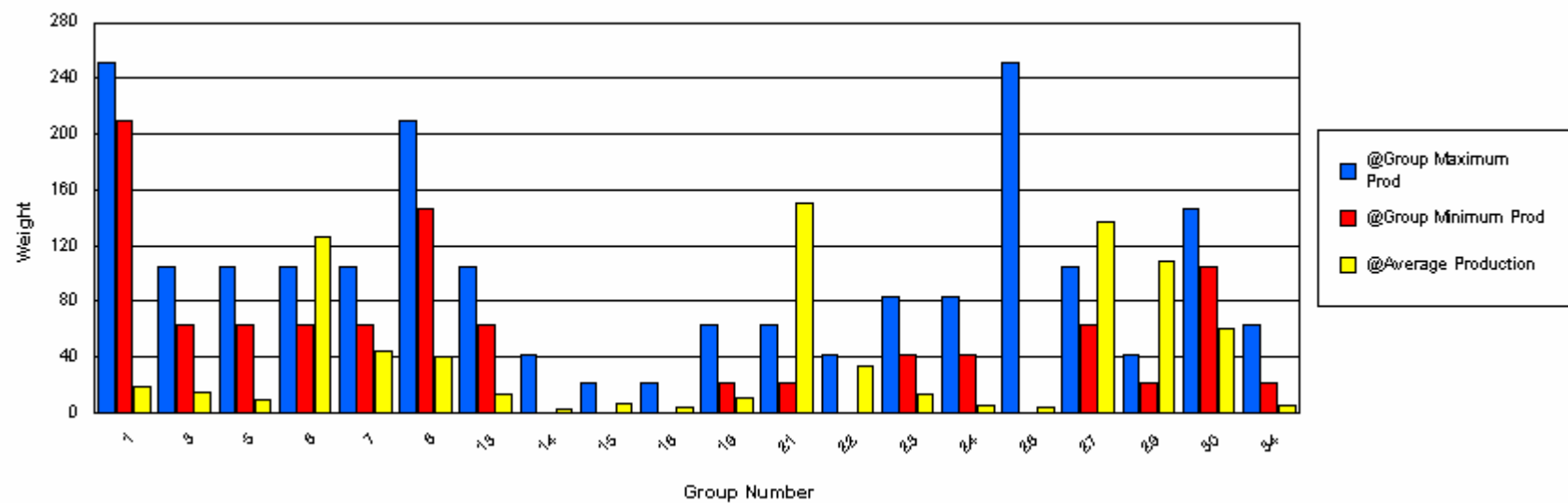
# Functional / Structural Groups

## Report Parameters

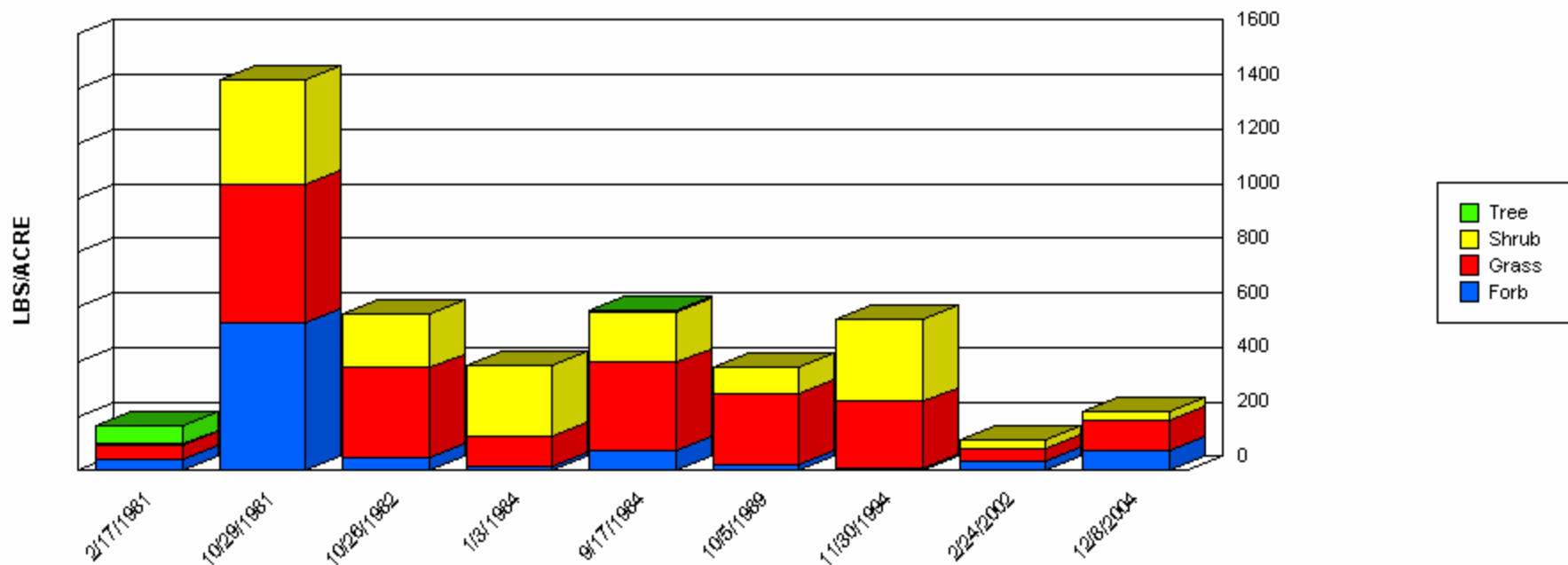
SITE NAME LIKE 65005-EAST #1-D025  
 ON/AFTER 10/01/1980  
 ON/BEFORE 09/30/2005  
 MIN LBS TO GRAPH 1  
 SELECTED ECOSITE 070BY055NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	ANHA	210	252	4.67	41.00	18.66	15.96
3	Grass	EROX	63	105	2.00	24.00	12.75	10.28
3	Grass	PAST6	63	105	0.40	7.00	2.51	2.27
5	Grass	BOHI2	63	105	1.94	37.00	9.70	11.43
6	Grass	ARDI5	63	105	0.00	10.89	5.45	5.45
6	Grass	ARIST	63	105	0.00	159.00	79.91	59.83
6	Grass	ARPU9	63	105	16.05	66.13	41.09	25.04
7	Grass	LECO	63	105	5.70	170.40	44.39	52.30
8	Grass	SPCR	147	210	0.00	147.00	40.39	46.04
13	Grass	BOCU	63	105	0.65	42.70	12.85	13.01
14	Grass	MUSQ	0	42	1.00	4.00	2.33	1.25
15	Grass	CEPA7	0	21	1.24	11.00	6.06	3.45
16	Grass	CAREX	0	21	0.00	14.20	4.67	5.28
19	Grass	ERSE2	21	63	0.00	11.20	3.75	4.30
19	Grass	SPFL2	21	63	5.00	8.60	6.80	1.80
21	Forb	ERAN3	21	63	0.00	407.00	135.67	191.86
21	Forb	ERIOG	21	63	0.00	34.11	14.37	14.44
22	Forb	AMPS	0	42	0.00	138.00	33.05	48.37
23	Forb	AAFF	42	84	1.00	30.00	12.06	9.47
23	Forb	PHACE	42	84	0.00	2.00	0.94	0.82
24	Forb	CRYPT	42	84	0.00	1.24	0.62	0.62
24	Forb	PPFF	42	84	2.00	9.90	5.30	3.35
26	Shrub	QUHA3	0	252	1.32	5.87	3.60	2.28
27	Shrub	YUCCA	63	105	0.00	52.00	25.56	21.24
27	Tree	YUEL	63	105	7.00	70.00	38.50	31.50
27	Shrub	YUGL	63	105	3.33	142.00	72.67	69.34

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
29	Shrub	GUSA2	21	42	4.00	378.20	108.83	118.28
30	Shrub	ARFI2	105	147	0.00	255.00	60.92	88.65
34	Shrub	SENEC2	21	63	1.32	9.00	5.16	3.84



## Production Lbs/Acre Trends

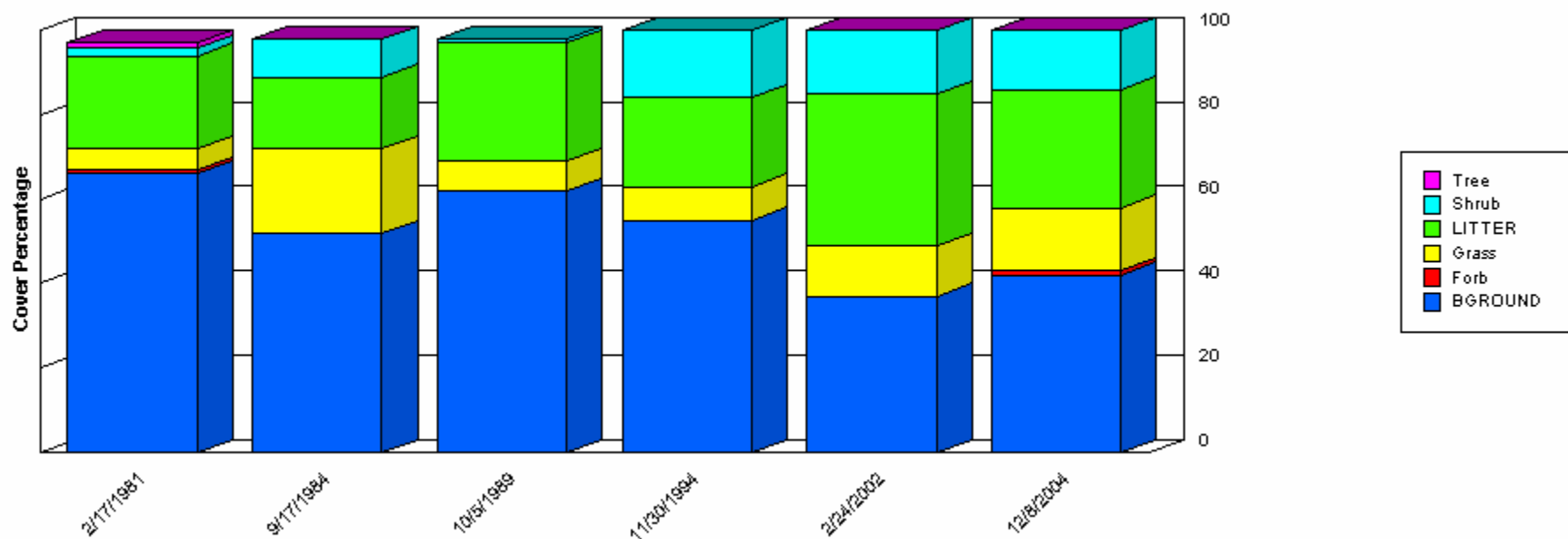


	2/17/1981	10/29/1981	10/26/1982	1/3/1984	9/17/1984	10/5/1989	11/30/1994	2/24/2002	12/8/2004
Forb	40.00	545.00	50.16	17.42	77.00	22.00	8.00	36.18	72.52
Grass	53.00	507.00	326.18	111.54	319.00	263.00	245.00	45.07	114.01
Shrub	4.00	378.20	198.00	257.00	183.00	97.00	301.00	34.62	29.84
Tree	70.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	0.00
Total	167.00	1,430.20	574.34	385.96	586.00	382.00	554.00	115.87	216.37

### Report Parameters

SITE NAME LIKE 65005-EAST #1-D025  
 ON/AFTER 10/01/1980  
 ON/BEFORE 09/30/2005

## Ground Cover Trends



	2/17/1981	9/17/1984	10/5/1989	11/30/1994	2/24/2002	12/8/2004
BGROUND	66.00	52.00	62.00	55.00	37.00	42.00
Forb	1.00	0.00	0.00	0.00	0.00	1.00
Grass	5.00	20.00	7.00	8.00	12.00	15.00
LITTER	22.00	17.00	28.00	21.00	36.00	28.00
Shrub	2.00	9.00	1.00	16.00	15.00	14.00
Tree	1.00	0.00	0.00	0.00	0.00	0.00
Total	97.00	98.00	98.00	100.00	100.00	100.00



## Report Parameters

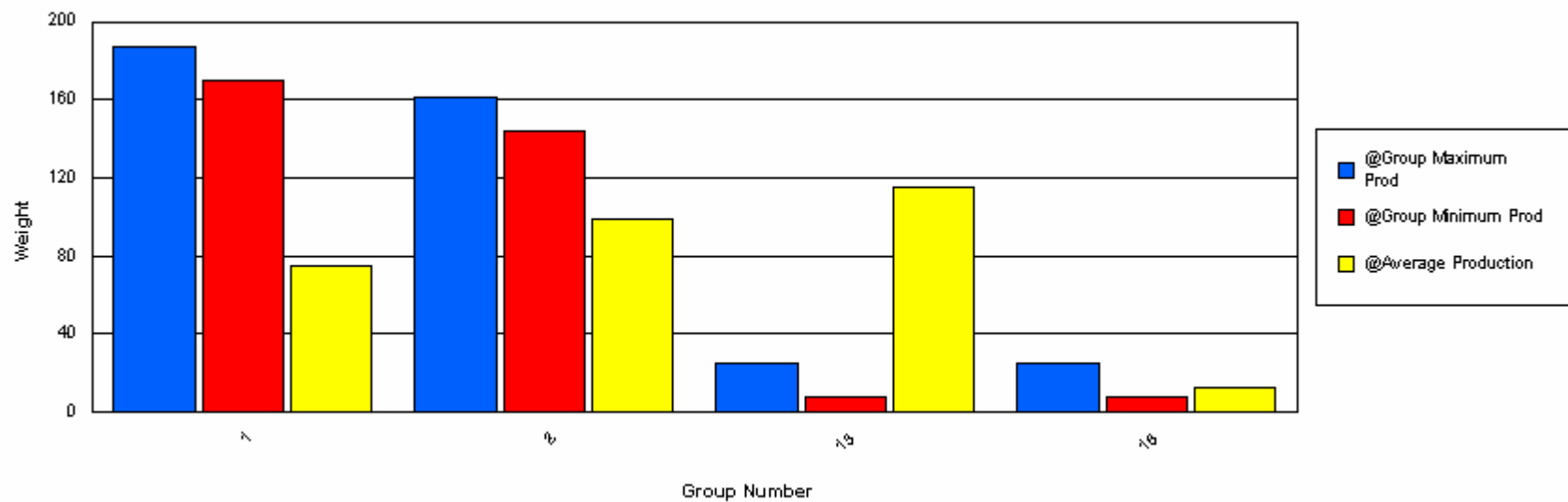
SITE NAME LIKE	65005-EAST #1-D025
ON/AFTER	10/01/1980
ON/BEFORE	09/30/2005

# Functional / Structural Groups

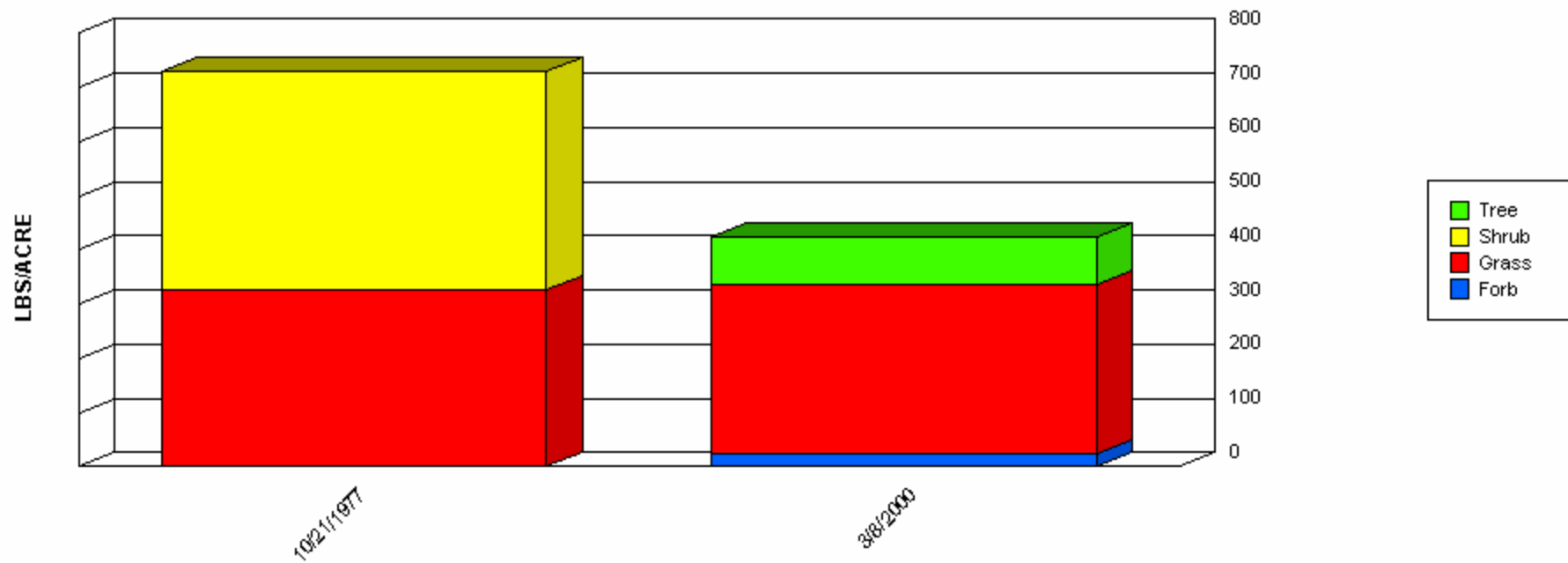
## Report Parameters

SITE NAME LIKE 65001-DF85-C004  
 ON/AFTER 10/01/1977  
 ON/BEFORE 09/30/2005  
 MIN LBS TO GRAPH 2  
 SELECTED ECOSITE 070BY062NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOGR2	170	187	63.36	87.00	75.18	11.82
2	Grass	BOER4	144	161	85.00	112.00	98.50	13.50
13	Grass	HIMU2	8	25	9.00	112.23	60.62	51.62
13	Grass	MUPO2	8	25	19.09	90.00	54.55	35.46
18	Forb	AAFF	8	25	1.00	24.18	12.59	11.59



## Production Lbs/Acre Trends

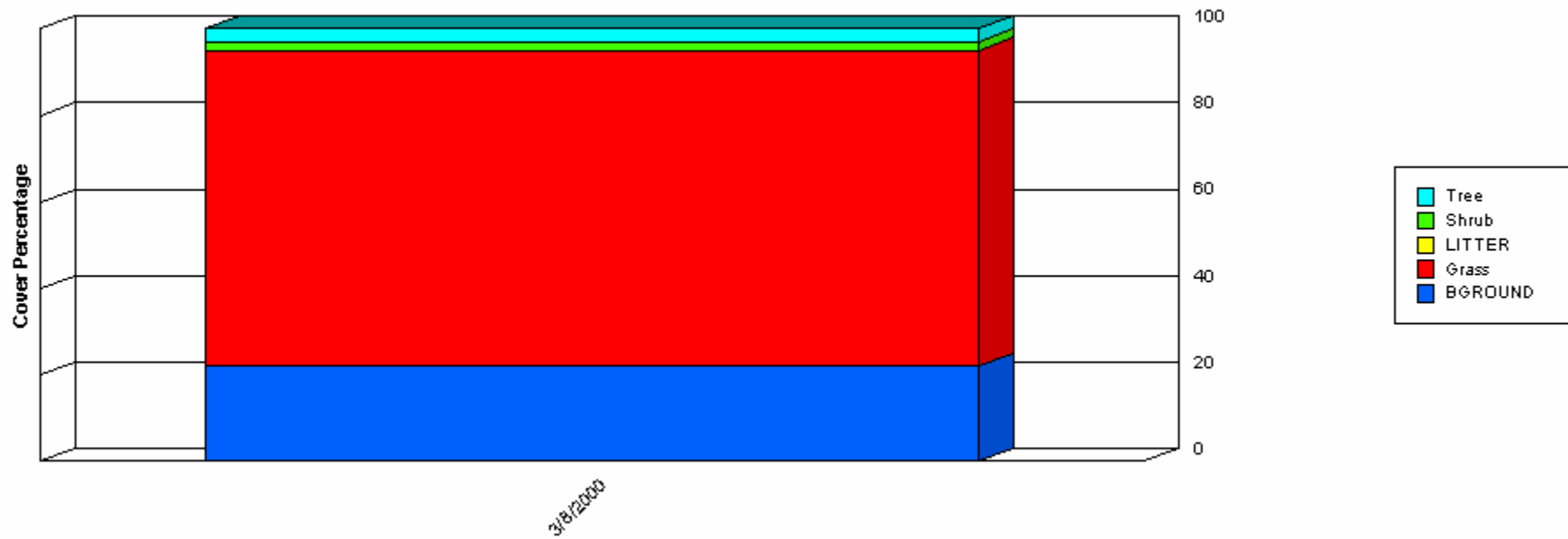


	10/21/1977	3/8/2000
Forb	1.00	24.18
Grass	326.00	312.44
Shrub	403.00	0.00
Tree	0.00	88.35
Total	730.00	424.97

### Report Parameters

SITE NAME LIKE 65001-DF85-C004  
 ON/AFTER 10/01/1977  
 ON/BEFORE 09/30/2005

# Ground Cover Trends



	3/8/2000
BGROUND	22.00
Grass	73.00
LITTER	0.00
Shrub	2.00
Tree	3.00
Total	100.00

## Report Parameters

SITE NAME LIKE	65001-DF85-C004
ON/AFTER	10/01/1977
ON/BEFORE	09/30/2005

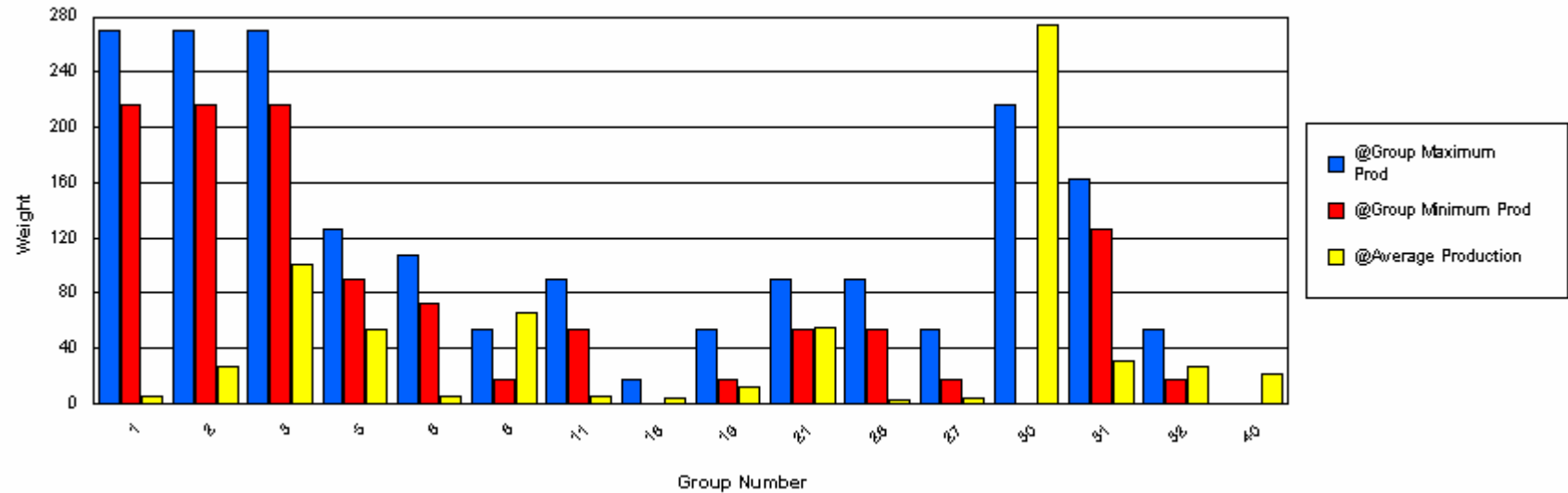
# Functional / Structural Groups

## Report Parameters

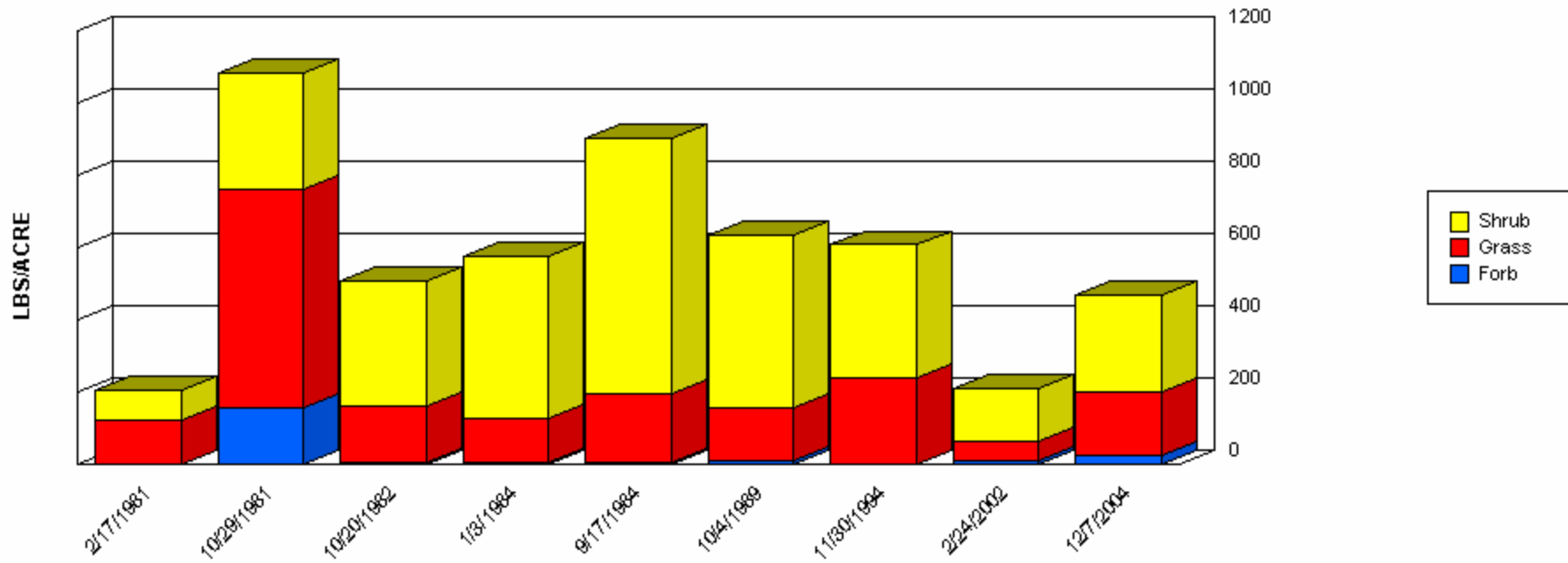
SITE NAME LIKE 65005-MIDDLE #2-D026  
 ON/AFTER 10/01/1980  
 ON/BEFORE 09/30/2005  
 MIN LBS TO GRAPH 1  
 SELECTED ECOSITE 070BY063NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	ANHA	216	270	1.21	9.00	5.24	2.94
2	Grass	ANSC2	216	270	2.00	83.20	26.75	32.41
3	Grass	SPCO4	216	270	4.80	192.00	38.18	68.83
3	Grass	SPCR	216	270	0.00	137.00	38.62	46.56
3	Grass	SPFL2	216	270	3.84	67.08	23.48	25.56
4	Grass	BOHI2	144	180	0.00	1.27	0.63	0.63
5	Grass	ARIST	90	126	0.00	104.00	32.93	36.86
5	Grass	ARPU9	90	126	8.03	34.58	21.30	13.28
6	Grass	PAST6	72	108	3.00	8.00	5.50	2.50
8	Grass	LECO	18	54	0.63	255.60	65.68	77.06
11	Grass	BOCU	54	90	1.27	11.00	5.22	4.04
15	Grass	EROX	54	90	0.00	1.00	0.66	0.41
16	Grass	ERSE2	0	18	0.00	11.20	3.73	5.28
19	Grass	STCO4	18	54	2.00	29.00	12.00	12.08
21	Forb	ERAN3	54	90	0.00	148.50	49.50	70.00
21	Forb	ERIOG	54	90	0.00	10.61	5.30	5.30
26	Forb	AAFF	54	90	1.00	8.10	2.42	2.84
27	Forb	PPFF	18	54	0.00	12.00	4.57	5.24
30	Shrub	QUHA3	0	216	68.00	563.00	274.70	145.15
31	Shrub	ARFI2	126	162	1.44	83.00	31.36	28.16
32	Shrub	GUSA2	18	54	2.00	71.00	27.24	25.21
40	Shrub	PRGL2	0	0	0.00	45.00	21.09	18.77

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
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## Production Lbs/Acre Trends



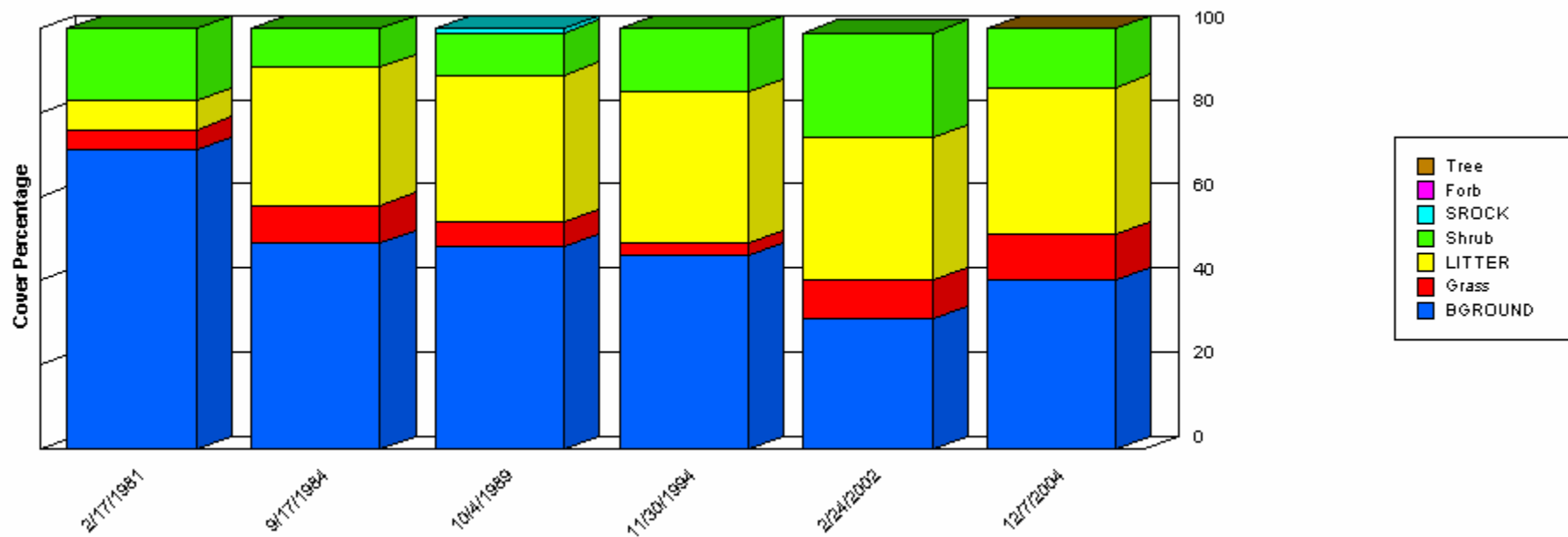
	2/17/1981	10/29/1981	10/20/1982	1/3/1984	9/17/1984	10/4/1989	11/30/1994	2/24/2002	12/7/2004
Forb	1.00	158.34	8.10	8.04	5.00	13.00	1.00	10.61	26.39
Grass	121.00	606.50	154.62	118.54	190.00	144.00	238.00	53.82	173.86
Shrub	84.00	320.00	345.84	452.80	707.00	477.00	370.00	146.55	267.89
Total	206.00	1,084.84	508.56	579.38	902.00	634.00	609.00	210.98	468.14

### Report Parameters

SITE NAME LIKE 65005-MIDDLE #2-D026  
 ON/AFTER 10/01/1980  
 ON/BEFORE 09/30/2005



## Ground Cover Trends



	2/17/1981	9/17/1984	10/4/1989	11/30/1994	2/24/2002	12/7/2004
BGROUND	71.00	49.00	48.00	46.00	31.00	40.00
Forb	0.00	0.00	0.00	0.00	0.00	0.00
Grass	5.00	9.00	6.00	3.00	9.00	11.00
LITTER	7.00	33.00	35.00	36.00	34.00	35.00
Shrub	17.00	9.00	10.00	15.00	25.00	14.00
SROCK	0.00	0.00	1.00	0.00	0.00	0.00
Tree	0.00	0.00	0.00	0.00	0.00	0.00

	2/17/1981	9/17/1984	10/4/1989	11/30/1994	2/24/2002	12/7/2004
Total	100.00	100.00	100.00	100.00	99.00	100.00

## Report Parameters

SITE NAME LIKE 65005-MIDDLE #2-D026  
 ON/AFTER 10/01/1980  
 ON/BEFORE 09/30/2005